

**WHAT IS CLAIMED IS:**

1. A method of configuring a data network, the method comprising:  
determining an average peak bandwidth per user value for the data network;  
determining a capacity of a communication link connecting a digital subscriber  
line access multiplexer (DSLAM) and an asynchronous transfer mode  
(ATM) switch;  
determining a data transmission slowdown indicator that includes a slowdown  
amount and a probability of experiencing a slowdown event;  
determining an estimated maximum number of users of digital subscriber lines  
that may be supported by the DSLAM, where the estimated maximum  
number of users of digital subscriber lines is based on the average peak  
bandwidth per user value, the capacity of the communication link, and the  
customer data transmission slowdown indicator; and  
configuring the data network such that the DSLAM has a configured number of  
users of digital subscriber lines that is less than or equal to the estimated  
maximum number of users of digital subscriber lines.
2. The method of claim 1, wherein the estimated maximum number of users of  
digital subscriber lines is further based on a probability of a random user downloading  
data at a given period of time.
3. The method of claim 1, wherein the estimated maximum number of users of  
digital subscriber lines is further based on an Erlang model calculation.
4. The method of claim 1, wherein the communication link is one or more DS3  
type communication links or an OC3 type communication link.
5. The method of claim 1, wherein the estimated maximum number of users of  
digital subscriber lines is calculated with an assumption that a plurality of different users  
download data at the same data transfer speed.

6. The method of claim 5, wherein the data transfer speed is about 1.5 Mbits/second.
7. A method of configuring a data network, the method comprising:
  - determining an average peak bandwidth per user value for the data network;
  - determining a capacity of a communication link connecting a remote terminal (RT) to asynchronous transfer mode (ATM) switch via an optical concentrator device;
  - determining a data transmission slowdown indicator that includes a slowdown amount and a probability of experiencing a slowdown event;
  - determining an estimated maximum number of users that may be supported by the RT, where the estimated maximum number of users is based on the average peak bandwidth per user value, the capacity of the communication link, and the customer data transmission slowdown indicator; and
  - configuring the data network such that the RT has a configured number of users of the subscriber lines that is less than or equal to the estimated maximum number of users that may be supported by the RT.
8. The method of claim 7, wherein the communication link comprises a plurality of T1 transmission lines.
9. The method of claim 7, wherein the communication link comprises one of an OC3 and one or more DS3 links.

10. A data communications system comprising:
  - a plurality of digital subscriber lines;
  - a digital subscriber line multiplexer coupled to each of the plurality of digital subscriber lines; and
  - a data switch coupled to the digital subscriber line multiplexer via a communication link;wherein the data communications system is configured such that the number of digital subscriber line users supported by the digital subscriber line multiplexer is determined based on an estimated maximum number of users, the estimated maximum number of users determined based on an average peak bandwidth per user value, a data communication capacity of the communication link, and a data transmission slowdown indicator.
11. A data communications system comprising:
  - a plurality of digital subscriber lines;
  - a remote terminal device coupled to each of the plurality of digital subscriber lines; and
  - a data switch coupled to the remote terminal device via a communication link;wherein the data communications system is configured such that the number of digital subscriber line users supported by the remote terminal device is determined based on an estimated maximum number of users, the estimated maximum number of users determined based on an average peak bandwidth per user value, a data communication capacity of the communication link, and a data transmission slowdown indicator.
12. The system of claim 11, wherein the estimated maximum number of users of digital subscriber lines is further based on a probability of a random user downloading data at a given period of time.

13. The system of claim 11, wherein the estimated maximum number of users of digital subscriber lines is further based on an Erlang model calculation.

14. The system of claim 11, wherein the communication link is one or more DS3 type communication links, an OC3 type communication link, or one or more T1 type communication links.

15. The system of claim 11, wherein the estimated maximum number of users of digital subscriber lines is calculated with an assumption that a plurality of different users download data at the same data transfer speed.

16. The system of claim 15, wherein the data transfer speed is about 1.5 Mbits/second.